

Amendment of the claims:

Please amend claims 1, 12, 14, 18-20 and 25 as set forth below.

Please cancel claims 13 and 28 to 31 without prejudice.

Claims 5-6, 15-17, 23 and 27 were previously canceled.

The present listing of the claims replaces any prior listing and upon entry of the present amendment, the status of the claims will be as follows.

Listing of the claims:

1. (Currently amended) A method for detecting the presence of a mammalian mutant target nucleic acid in a neoplasm, and in a tumor margin tissue specimen comprising,

extracting the ~~mutant~~ nucleic acid present in the neoplasm ~~and in the tissue specimen~~, wherein the ~~mutant target~~ nucleic acid is selected from APC, DCC, NF1, NF2, RET, VHL, and WT-1 ~~and~~

detecting the ~~mutant target~~ nucleic acid in the neoplasm and in the histologically normal tissue specimen, wherein the specimen is external to a primary neoplasm ~~and the specimen does not exhibit microscopic characteristics indicative of neoplastic pathology.~~

2. (Previously presented) The method of claim 1, further comprising, prior to detecting the presence of the mutant target nucleic acid, amplifying the nucleic acid present in the specimen to produce an amplified nucleic acid, wherein said detecting comprises detecting the presence of the mutant target nucleic acid in the amplified nucleic acid.

3. (Previously presented) The method of claim 2, wherein said amplifying is by means of oligonucleotides that hybridize to flanking regions of the mutant target nucleic acid.

4. (Previously presented) The method of claim 1, wherein the mutant target nucleic acid contains a mutation selected from the group consisting of a restriction fragment length polymorphism, a nucleic acid deletion, and a nucleic acid substitution.

5 and 6. (Canceled).

7. (Previously presented) The method of claim 1, wherein the neoplasm is a neoplasm of the head or a neoplasm of the neck.

8. (Previously presented) The method of claim 1, wherein the neoplasm is head and neck cancer.

9. (Previously presented) The method of claim 1, wherein the neoplasm is a benign neoplasm.

10. (Previously presented) The method of claim 1, wherein the neoplasm is a malignant neoplasm.

11. (Previously presented) The method of claim 2, further comprising, prior to detecting the presence of the mutant nucleic acid, cloning the amplified nucleic acid, wherein said detecting comprises detecting the presence of the mutant target nucleic acid in the amplified nucleic acid.

12. (Currently amended) A method for detecting metastases in a subject having an excised tumor, the method comprising:

a) isolating tissue from a surgical margin adjacent to the excised tumor, wherein the tissue is histologically normal;

b) ~~applying to said~~ contacting the tissue with an oligonucleotide that specifically hybridizes to a ~~neoplastic~~ nucleic acid sequence having a mutation ~~mutant nucleotide sequence~~, wherein the ~~neoplastic~~ nucleic acid is selected from at least one of APC, DCC, NF1, NF2, RET, VHL, and WT-1; and

c) detecting the presence of ~~said neoplastic~~ the nucleic acid sequence, wherein the presence of ~~said neoplastic~~ the nucleic acid sequence is indicative of ~~indicates~~ metastases.

13. (Canceled).

14. (Currently amended) The method according to claim 12 wherein ~~said~~ the tissue ~~appears~~ is normal under a microscope.

15 to 17. (Canceled).

18. (Currently amended) A method for detecting a mammalian target neoplastic nucleic acid having a mutant nucleotide sequence in a tissue specimen which is external to a primary neoplasm, comprising extracting nucleic acid present in the specimen to obtain extracted nucleic acid, isolating a tissue specimen wherein the tissue specimen is histologically normal, and detecting the presence of the target mutant neoplastic nucleic acid in the extracted nucleic acid and in the tissue specimen, wherein the target mutant neoplastic nucleic acid is selected from APC, DCC, NF1, NF2, RET, VHL, and WT-1.

19. (Currently amended) A method for detecting a mammalian target neoplastic nucleic acid having a mutant nucleotide sequence in a tumor margin tissue specimen which is external to a primary neoplasm, comprising extracting nucleic acid present in the specimen to obtain extracted nucleic acid, isolating a tissue specimen wherein the tissue specimen appears histologically normal, and detecting the presence of the target neoplastic nucleic acid in the extracted nucleic acid, wherein the target mutant neoplastic nucleic acid is selected from APC, DCC, NF1, NF2, RET, VHL, and WT-1.

20. (Currently amended) A method for detecting the presence of a mammalian mutant target nucleic acid in a neoplasm and in a lymph node tissue specimen, comprising:

extracting mutant nucleic acid present in the neoplasm and in the tissue specimen and, wherein the mutant target nucleic acid is selected from APC, DCC, NF1, NF2, RET, VHL, and WT-1; and

isolating a tissue specimen wherein the specimen is external to a primary neoplasm, and wherein the tissue specimen appears histologically normal; and

detecting the mutant target nucleic acid in the neoplasm and in the tissue specimen; ~~wherein the specimen is external to a primary neoplasm and the specimen does not exhibit microscopic characteristics indicative of neoplastic pathology.~~

21. (Previously presented) The method of claim 20, further comprising, prior to detecting the presence of the mutant target nucleic acid, amplifying the nucleic acid present in the specimen to produce an amplified nucleic acid, wherein said detecting comprises detecting the presence of the mutant target nucleic acid in the amplified nucleic acid.

22. (Previously presented) The method of claim 20, wherein the mutant target nucleic acid contains a mutation selected from the group consisting of a restriction fragment length polymorphism, a nucleic acid deletion, and a nucleic acid substitution.

23. (Canceled).

24. (Previously presented) The method of claim 20, wherein the neoplasm is a neoplasm of the head or a neoplasm of the neck.

25. (Currently amended) A method for detecting metastases in a subject having an excised tumor, the method comprising:

a) isolating tissue from a lymph node, which is external to a primary neoplasm and appears histologically normal ~~does not exhibit microscopic characteristics indicative of neoplastic pathology~~;

b) applying to said tissue an oligonucleotide that specifically hybridizes to a neoplastic nucleic acid having a mutant nucleotide sequence, wherein the neoplastic nucleic acid is selected from APC, DCC, NF1, NF2, RET, VHL, and WT-1; and

c) detecting the presence of said neoplastic nucleic acid, wherein the presence of said neoplastic nucleic acid indicates metastases.

26. (Previously presented) The method of claim 25, wherein no more than an average of about one out of every ten thousand cells of said tissue have a neoplastic nucleic acid.

27. (Canceled).

28 to 31. (Canceled).